CHCF

Nurse Practitioners Practicing in Underserved Communities

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About the Authors

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About the Survey

The Survey of California Nurse Practitioners and Nurse-Midwives was conducted by the University of California, San Francisco (UCSF), from July 18, 2022, to March 31, 2023. The survey was sent to 3,600 nurse practitioners (3,300 licensed nurse practitioners [NPs] and 300 dual-licensed nurse practitioner-nurse-midwives [NP-NMs]) with active NP licenses and addresses in California. The survey was also sent to licensed NMs, but their responses were not included in this brief. The survey sample was stratified by region to ensure adequate numbers in each region for regional analyses. A total of 993 NPs completed the survey, for a 28% response rate for the eligible population.

Of the 993 licensed NPs who completed the survey, 670 were currently practicing. In total, there were 655 practicing NPs who indicated they provided patient care in their principal position. Among NP respondents, 366 provided patient care in underserved communities — this subpopulation of NPs is the focus of this brief — and where appropriate, comparisons were made with the subpopulation of 264 NPs who provided patient care but did not work in underserved communities.

To address differential response rates by age group and region, and to account for the stratification of the sample design, weights were used to ensure that all analyses reflected the full statewide population of NPs with active California licenses. The responses were weighted per the sample design (regional stratification), and then the weights were raked to match the age distribution of each of NPs and NP-NMs based on Board of Registered Nursing reports. The sample size and weighting ensure that the data presented in this report are representative of the statewide population of NPs.

More details on the study methodology are available in Appendix C.

Introduction

Nurse practitioners (NPs) are the largest group of nonphysician primary care providers and play a growing role in filling gaps in health care provision in both primary care and behavioral health.[1] NPs are nurses who have completed education beyond their initial registered nurse education to work in a specialized role in the delivery of health care services. NPs are prepared to provide care in a variety of settings and for many types of patients, although most focus on primary care in ambulatory settings.

NPs and other advanced practice nurses, such as nurse-midwives, compose a relatively large share of the primary care workforce in rural areas, lower-income communities, community health centers, and Health Professional Shortage Areas.[2] Psychiatric-mental health NPs also play a growing role in serving people enrolled in Medicare and living in rural counties.[3] The US Health Resources and Services Administration estimates that 5,865,582 Californians live in federally designated primary care Health Professional Shortage Areas, and 10,994,288 live in mental health shortage areas,[4] a disproportionate share of whom identify as Latino/x, Black, and American Indian and Alaska Native.[5] California's health professions shortage areas include many of its fastest-growing counties and regions, including the San Joaquin Valley, northern Sacramento Valley, and Inland Empire.[6] Health workforce shortages have the greatest impact on communities with high rates of poverty and those in rural regions.[7] NPs are in an important position to help address the significant challenges millions of underserved Californians face accessing health care services due to a myriad of interacting factors, including socioeconomic status, racial/ethnic disparities, geographic inequalities, and lack of health insurance.[8]

The nurse practitioner workforce has been growing rapidly in California, more than doubling from 14,000 in 2010 to 30,000 in 2023.[9] To advance the engagement of this growing workforce in meeting California's health care needs, California implemented Assembly Bill (AB) 890 in 2023, providing a pathway for NPs to practice without formal physician supervision after three years of practice and without any physician relationship after six years of practice[10]. The expectation is that these new regulations aimed at fostering NP independence will improve access to care, especially primary care, in rural and other underserved communities.

Data presented in this brief are drawn from a survey of NPs in California sponsored by the California Health Care Foundation (CHCF) and conducted by the University of California, San Francisco (UCSF), from July 2022 to March 2023.

This brief focuses on practicing California NPs who provided patient care to underserved communities. More than half of practicing NPs who provided patient care reported working in an underserved community in their principal position (56%; *n* = 366).[11]

Key findings include:

Many NPs who practiced in underserved communities were fluent in a non-English language; however, they were much less likely to be Latino/x than the patients they served.

- Forty-five percent of NPs who practiced in underserved communities reported they were fluent in a non-English language. NPs who practiced in underserved communities reported that 40% of their patients preferred to receive care in a language other than English. Spanish was the most common non-English language spoken by both NPs and their patients.
- Twelve percent of NPs who practiced in underserved communities were Latino/x compared to 39% of their patients and 50% of Medi-Cal enrollees. Thirty-three percent were Asian, Native Hawaiian, or Pacific Islander compared to 14% of their patients and 10% of Medi-Cal enrollees, and 7% were Black compared to 14% of their patients and 7% of Medi-Cal enrollees.
- NPs who practiced in underserved communities were younger and had less tenure than those who did not.

NPs who practiced in underserved communities were important providers of primary care.

- More than half of NPs who practiced in underserved communities (52%) reported they provided primary care, defined as acting as the first and principal point of continuing care for their patients, more than NPs who did not practice in underserved communities (44%).
- On average, NPs who provided primary care in underserved communities reported spending 75% of their time delivering primary care, and 46% of these NPs spent all their time providing primary care.
- Nearly one in five NPs (19%) reported working in a community health center, Federally Qualified Health Center, or Rural Health Clinic.

NPs who practiced in underserved communities reported high career satisfaction, yet they experienced high levels of burnout and challenges addressing the needs of their patients.

- About three in four NPs (77%) who practiced in underserved communities reported being "satisfied" or "very satisfied" in their career.
- Nearly half of NPs who practiced in underserved communities (49%) reported feeling burned out from work "a few times a month" or more frequently.
- NPs reported many barriers to providing high-quality care to their patients, especially related to behavioral health care.
- In the next five years, half of these NPs (51%) plan to decrease their work hours (30%), retire (9%), take a break from NP work (7%), or leave the workforce entirely (5%).

Many NPs in underserved communities and NPs overall expressed interest in changing their practices in light of the passage of AB 890.

- About 43% of all practicing NPs reported they were "somewhat interested in" (28%), "seriously considering" (7%), or "definitely planning" (7%) to change their practice to serve more Medi-Cal patients, and 37% said they were at least "somewhat interested" in relocating their practice to an underserved community.
- Thirty-seven percent of NPs practicing in underserved settings reported they were "somewhat interested in" (22%), "seriously considering" (10%), or "definitely planning" (9%) to change their practice to serve more Medi-Cal patients.

Nurse Practitioners Who Practiced in Underserved Communities and Their Patients

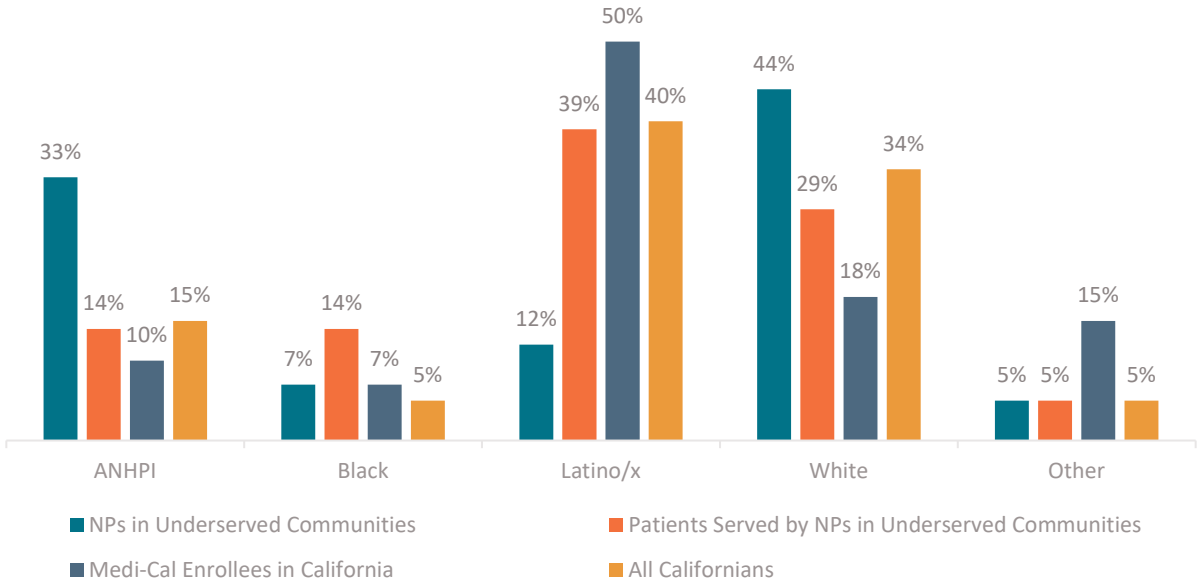
NPs who practiced in underserved communities were much less likely to be Latino/x compared to the patients they served.

California is one of the most diverse states in the country, and the state's Medi-Cal population is even more diverse than the state's population overall. Despite this, nearly half of the state's active physicians (49%) were White[12]. Similarly, 44% of NPs who practiced in underserved communities were White (Figure 1). Twelve percent of NPs who practiced in underserved communities were Latino/x, compared to 39% of their patients and 50% of Medi-Cal enrollees. One in three (33%) NPs in underserved communities were Asian, Native Hawaiian, or Pacific Islander, more than their patient populations (14%) and Medi-Cal enrollees (10%). Seven percent were Black, a lower rate than the patients they served (14%) but the same as Medi-Cal enrollees (7%).

Figure 1. Race/Ethnicity of NPs in Underserved Communities, Their Patients, Medi-Cal Enrollees, and California Population, 2023

Q: WHAT IS YOUR RACIAL/ETHNIC BACKGROUND? CHECK ALL THAT APPLY.

Q: WHAT DO YOU ESTIMATE IS THE RACIAL/ETHNIC COMPOSITION OF YOUR PATIENT POPULATION?



Notes: Number of cases — race/ethnicity of NPs in underserved communities = 360, race/ethnicity of patients served by NPs in underserved communities = 336. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered these questions. Patients served are estimated averages. *ANHPI* is Asian, Native Hawaiian, and Pacific Islander. *Other* includes American Indian and Alaska Native, multiracial, and other. Medi-Cal enrollment data are from California Health Care Foundation's *Medi-Cal Facts and Figures — 2021 Edition*. California population data are from Public Policy Institute of California.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Previous studies have shown that many patients prefer to see health care providers who share their racial/ethnic background.[13] Racial/ethnic concordance between patients and providers is associated with the likelihood of patients' utilization of health care services, which may partially explain racial/ethnic disparities in health. Patient-provider racial/ethnic concordance significantly increases the likelihood of seeking preventive care for Latino/x, Black, and Asian patients relative to White patients. Latino/x and Asian patients are also significantly more likely to seek care for new and ongoing health problems if there is racial/ethnic concordance between them and their provider.[14] In addition, when the race/ethnicity of a patient matches that of their provider, the patient has greater satisfaction with and trust in their provider, and in some cases the patient even receives more effective care.[15] Although many of these studies have focused on physicians, the findings are likely still applicable to relationships between patients and nurse practitioners.

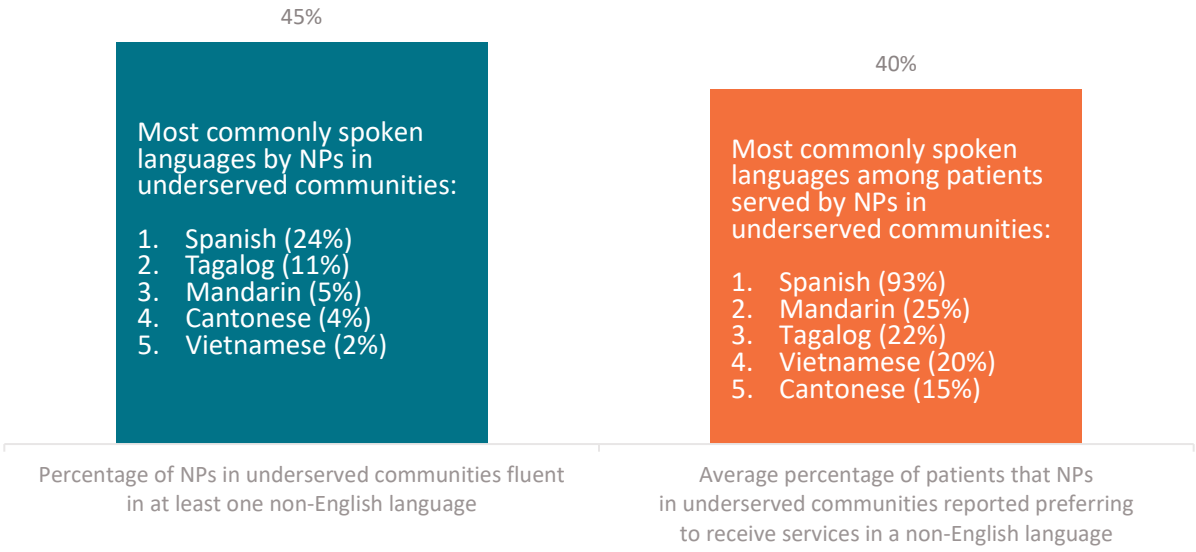
Many NPs who practiced in underserved communities reported they were fluent in a language other than English and that many patients preferred to receive care in a language other than English.

Studies have shown that language-concordant care can improve outcomes such as interpersonal relationships between patients and providers, access to care, and patient satisfaction.[16] In a recent survey, nearly 9 in 10 Californians say it is "very" (68%) or "somewhat" (18%) important to find a doctor who speaks the same language as they do.[17] Although these studies have focused on physicians, the findings are likely still applicable to relationships between patients and nurse practitioners. Among NPs who practiced in underserved communities, 45% reported they were fluent in at least one non-English language (Figure 2). They also reported that 40% of their patients preferred to receive services in a language other than English, a higher rate than for NPs who did not practice in underserved communities (23%, not shown). Spanish was the most commonly spoken non-English language among both NPs and their patients, followed by Mandarin and Tagalog.

Figure 2. Language Skills of NPs in Underserved Communities and Language Preferences of Their Patients, California, 2023

Q: DO YOU SPEAK ANY OF THESE NON-ENGLISH LANGUAGES FLUENTLY?

Q: WHAT PERCENTAGE OF YOUR CLIENTS PREFER TO RECEIVE SERVICES IN A LANGUAGE OTHER THAN ENGLISH? INDICATE THE THREE MOST COMMON NON-ENGLISH LANGUAGES SPOKEN BY YOUR PATIENTS.



Notes: Number of cases — language skills of NPs = 366, language preferences of patients = 308. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered these questions.

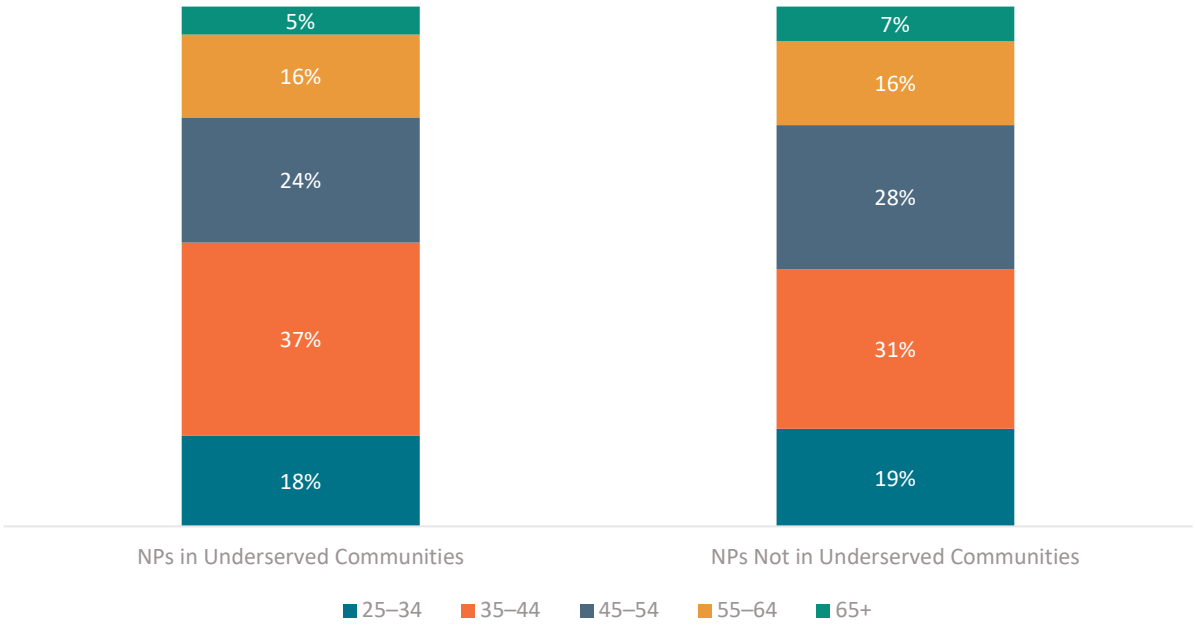
Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

NPs who practiced in underserved communities were younger and had less tenure.

NPs who provided patient care in underserved communities were slightly younger than their counterparts who did not practice in underserved communities. The majority of NPs (55%) who provided patient care in underserved communities were under 45, while the majority of NPs (51%) who did not practice in underserved communities were 45 or older (Figure 3). This is consistent with data collected in 2017 that reported that younger California NPs were more likely to practice in underserved areas.[18] Because younger NPs are more likely to be new graduates compared to older NPs, this pattern could reflect a greater interest in serving the underserved among new graduates entering the workforce but could also reflect a lack of job opportunities in other settings for new graduates.

Figure 3. Age Distribution of NPs, California, 2023

Q: IN WHAT YEAR WERE YOU BORN?



Notes: Number of cases — NPs in underserved communities = 366, NPs not in underserved communities = 264. Data are weighted to represent all NPs with active California licenses.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

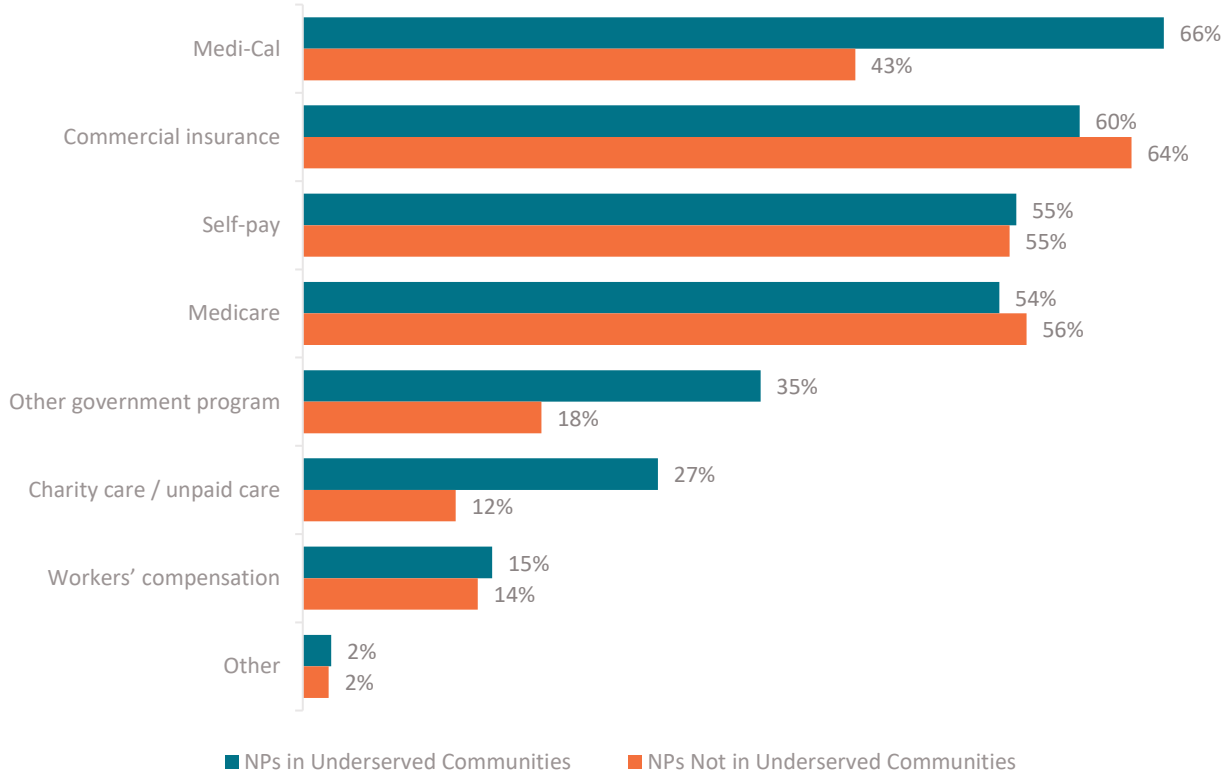
Accordingly, nearly half of NPs (46%) who provided patient care in underserved communities had held their position for less than three years — 16% held their position for less than a year and 30% held their position for 1–2 years. In contrast, NPs who did not practice in underserved communities were more likely (19% versus 14%) to have held their position for more than 10 years.

Most NPs who provided care in underserved communities accepted Medi-Cal and treated many Medi-Cal patients.

Patients from traditionally underserved communities, including those with lower incomes and those from diverse backgrounds, are more likely to report difficulty accessing care than other patients.[19] Nurse practitioners provide an important source of care for these patients. Approximately two-thirds of NPs (66%) who provided patient care in underserved communities reported that their practice accepted Medi-Cal insurance, compared to 43% of NPs not in underserved communities (Figure 4). In addition, NPs who practiced in underserved communities were more likely to report they accepted charity care / unpaid care patients than other NPs — 27% versus 12%. Prior research has found that NPs and physician assistants are more likely than physicians to serve as providers of care for patients enrolled in Medicaid or for patients paying for care out-of-pocket, particularly in rural areas.[20]

Figure 4. Types of Insurance/Patients That NPs Accepted, California, 2023

Q: WHICH TYPES OF PATIENTS IS YOUR PRACTICE/SETTING CURRENTLY ACCEPTING? CHECK ALL THAT APPLY.



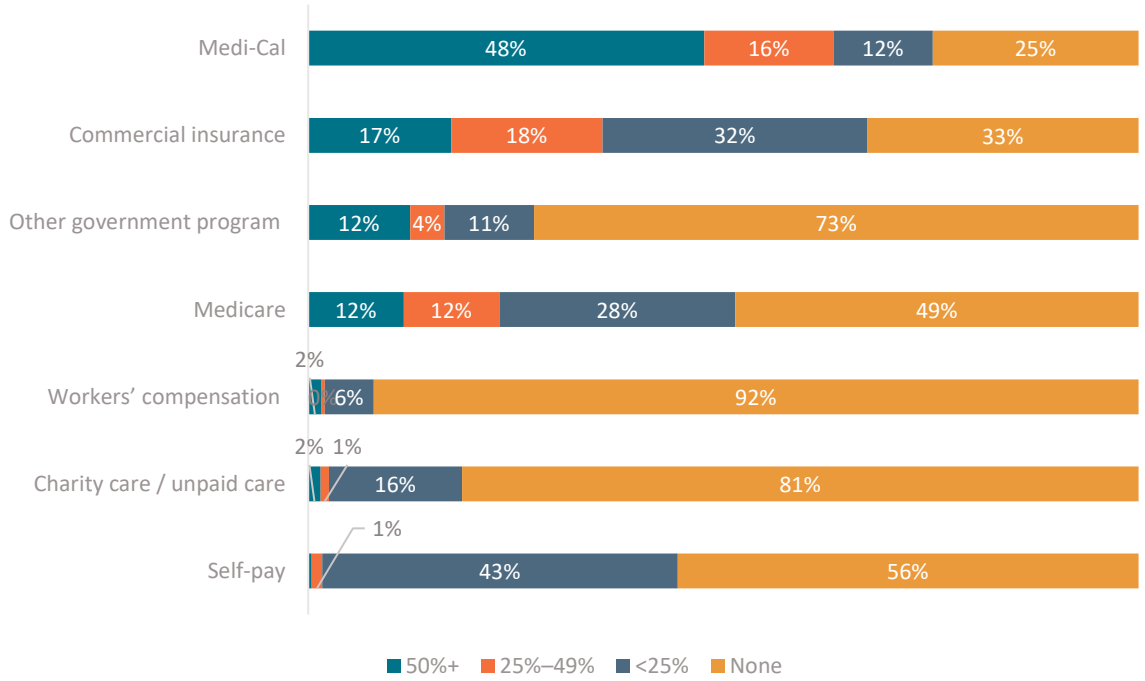
Notes: Number of cases — NPs in underserved communities = 320, NPs not in underserved communities = 226. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Nearly half of NPs (48%) who provided patient care in underserved communities reported that at least half of their patients were insured by Medi-Cal (Figure 5). Only 17% of NPs who served underserved communities estimated that more than half of their patients had commercial insurance. NPs in underserved communities reported serving more self-pay (45%) and charity care / unpaid care patients (19%) than other NPs (30% and 2%, respectively).

Figure 5. Estimated Patient Sources of Payment for NPs in Underserved Communities, California, 2023

Q: OVER THE PAST 12 MONTHS, WHAT PERCENT OF YOUR PATIENTS DO YOU ESTIMATE PAID FOR CARE BY . . .



Notes: Number of cases = 288. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Practice Settings and Experiences

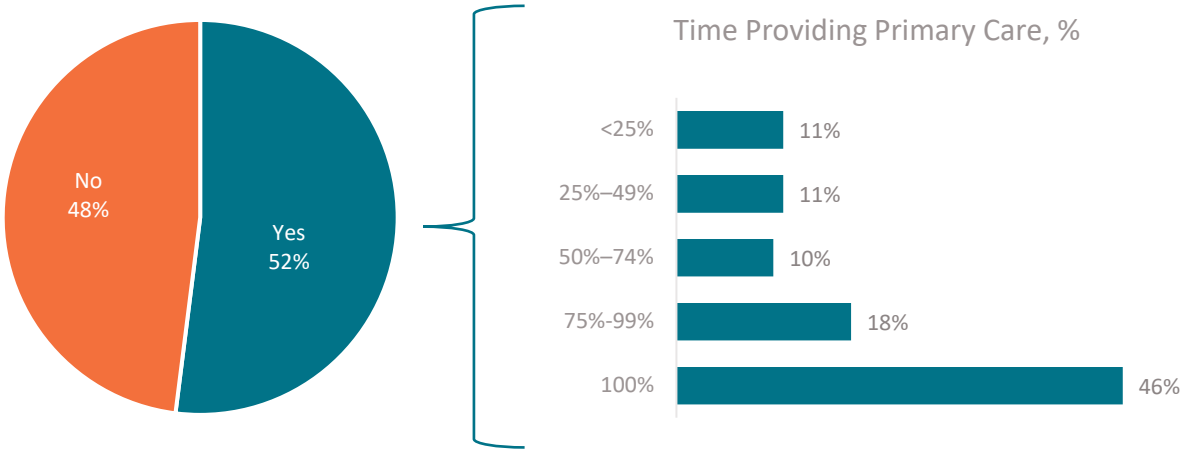
NPs in underserved communities are important providers of primary care.

Primary care services are important for underserved populations, particularly economically marginalized groups, as primary care is associated with higher rates of preventive care such as immunization, earlier detection and treatment of conditions, and better management of chronic health conditions.[21] NPs are key providers of primary care, particularly for underserved populations and rural communities.[22] NPs who practiced in underserved communities were more likely to report that they provided primary care, defined as acting as the first and principal point of continuing care for their patients, than their counterparts who did not practice in underserved communities (52% versus 44%). On average, NPs who

provided primary care in underserved communities reported spending 75% of their time delivering primary care, and 46% of these NPs spent all their time providing primary care (Figure 6).

Figure 6. Primary Care Provision Among NPs in Underserved Communities, California, 2023

Q: DO YOU PROVIDE ANY PRIMARY CARE IN THIS POSITION, MEANING THAT YOU ACT AS THE FIRST CONTACT AND PRINCIPAL POINT OF CONTINUING CARE FOR YOUR PATIENTS? PERCENT OF TIME PROVIDING PRIMARY CARE (IF YES).



Notes: Number of cases — provision of primary care = 356, percentage of time providing primary care = 195. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered the question about providing any primary care. Did not answer not shown for time providing primary care.

Source: *Survey of California Nurse Practitioners and Nurse*-Midwives conducted by UCSF (July 18, 2022, to March 31, 2023).

The most common practice setting among NPs who practiced in underserved communities was a community health center, Federally Qualified Health Center, or Rural Health Clinic (19%). This is consistent with national data; in 2021, 18% of community health center medical services staff was composed of NPs and other advanced practice clinicians such as physician assistants, and only 17% were physicians.[23] Community health centers are an important component of the health care safety net. In 2016, community health centers delivered care to nearly 26 million patients in the US, a disproportionate number of whom were low-income, racial/ethnic minorities, either uninsured or enrolled in Medicaid, and more likely to have chronic illnesses compared to the general population.[24] See Appendix A for data on all practice settings.

NPs who served underserved communities addressed social determinants of health.

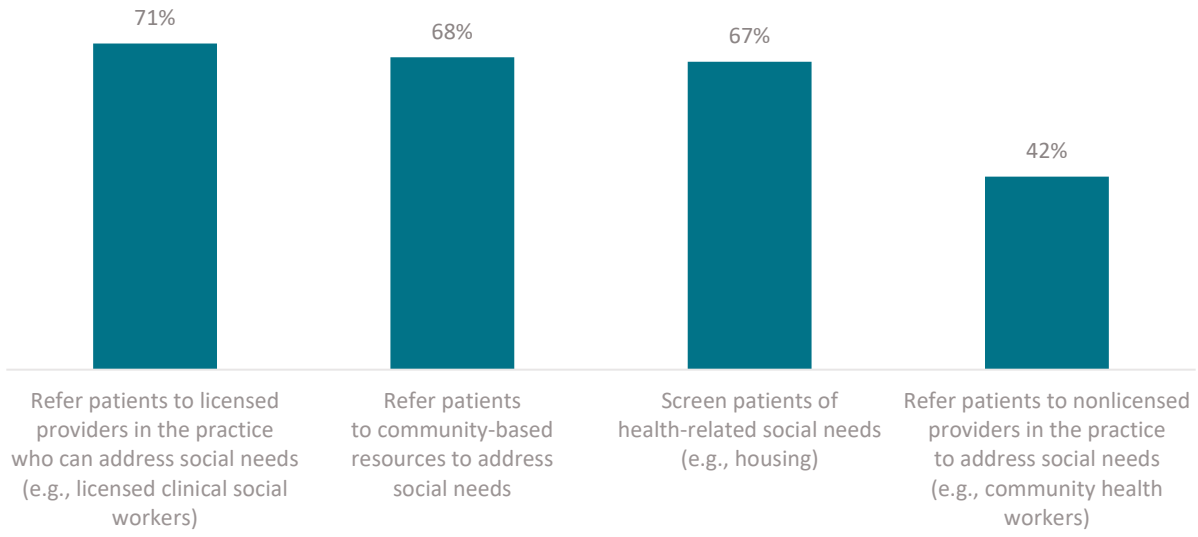
Decades of research has documented the importance of social and economic factors that affect health, such as housing quality, education, income, and access to healthy foods.[25] Addressing these factors is widely recognized as essential to narrowing disparities in health outcomes,

particularly for people living in underserved communities.[26] Fifty-two percent of NPs who provided patient care in underserved communities reported that they received formal training on screening for health-related social needs.

Accordingly, NPs who provided care in underserved communities often engaged in four specific practices related to screening and referral to address social needs (Figure 7). Two-thirds of NPs who practiced in underserved communities reported that they regularly screened patients for social needs, 71% made referrals to other licensed providers in their practice, and 68% made referrals to community-based resources to address social needs.

Figure 7. Screening and Referral to Address Social Determinants of Health Among NPs in Underserved Communities, California, 2023

Q: WHICH OF THE FOLLOWING DO YOU PARTICIPATE IN OR DO ON A REGULAR BASIS IN YOUR PRACTICE? CHECK ALL THAT APPLY.



Notes: Number of cases = 335. Bars do not sum to 100% because respondents could participate in or do more than one practice. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

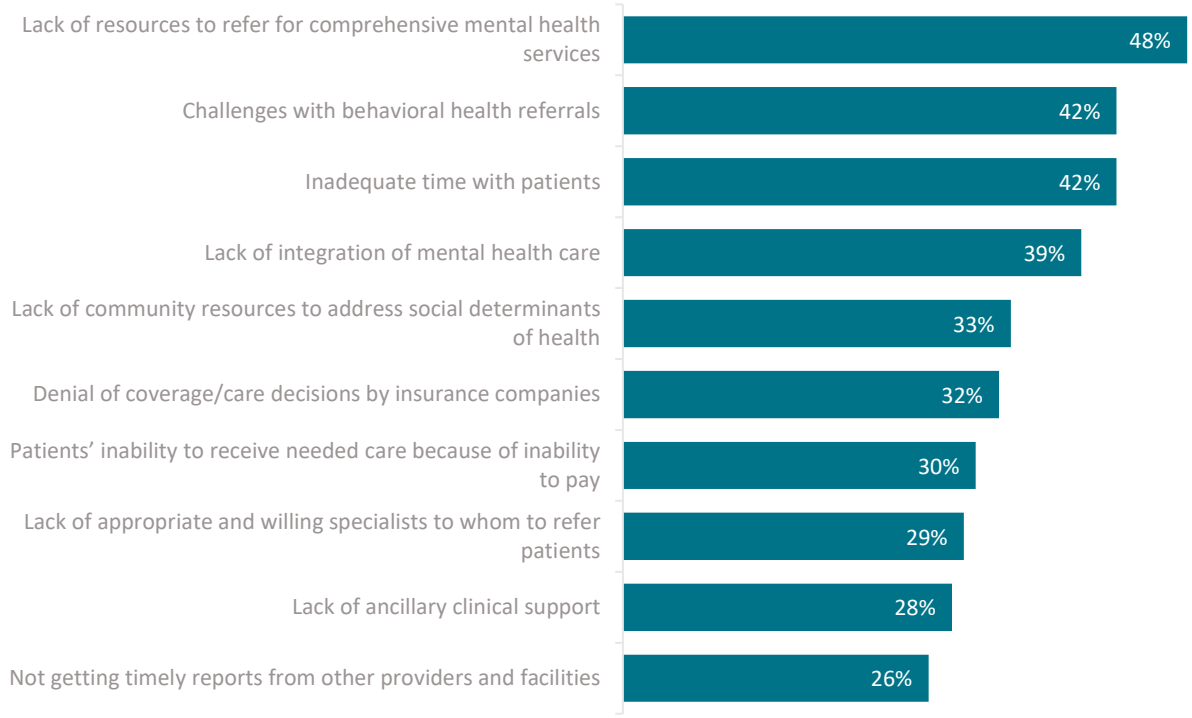
NPs reported many barriers to providing high-quality care to their patients, especially related to behavioral health care.

NPs reported that many factors interfered with the care they provided to their patients. The factors most often identified as a "major" problem among NPs who practiced in underserved communities were related to behavioral health issues: lack of resources to refer for comprehensive mental health services (48%), challenges with behavioral health referrals (42%), and lack of integration of mental health care (39%) (Figure 8). Inadequate time with patients was also often noted as a major barrier (42%). NPs also faced notable challenges related to patients' social needs, including a lack of community resources to address social determinants

of health (33%) and patients' inability to receive needed care because of inability to pay (30%). See Appendix B for complete data for this question.

Figure 8. Factors That Interfere with Providing High-Quality Patient Care Among NPs in Underserved Communities, Percentage Reporting "Major Problem," California, 2023

Q: HOW MUCH DO THESE FACTORS INTERFERE WITH THE CARE YOU PROVIDE?



Notes: Number of cases = 359. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question. Top 10 of 23 factors based on percentage saying the factor was a "major problem." See Appendix B for complete data for this question.

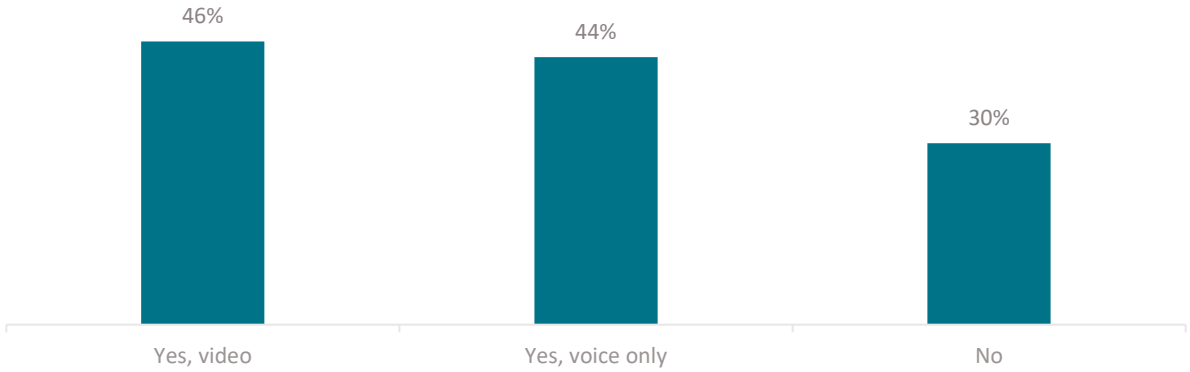
Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Most NPs who practiced in underserved settings provided telehealth services.

Telehealth increases access to health care services and has important benefits for Californians living in rural areas and who have low incomes.[27] Video and voice telehealth platforms remove barriers to care including transportation challenges and the cost of missing time from work or school. Telephone visits are reported to be particularly important among safety-net providers and patients with low incomes.[28] Seven in 10 NPs who practiced in underserved communities reported that they offered telehealth services. NPs who practiced in underserved communities provided an average of 28% of services via video platforms and 24% of services via voice-only platforms (Figure 9).

Figure 9. Telehealth Services Provided by NPs in Underserved Communities, California, 2023

Q: DO YOU PROVIDE TELEHEALTH SERVICES IN THIS POSITION?



Notes: Number of cases = 366. Columns will not sum to 100% because respondents could provide telehealth services via video and/or voice. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

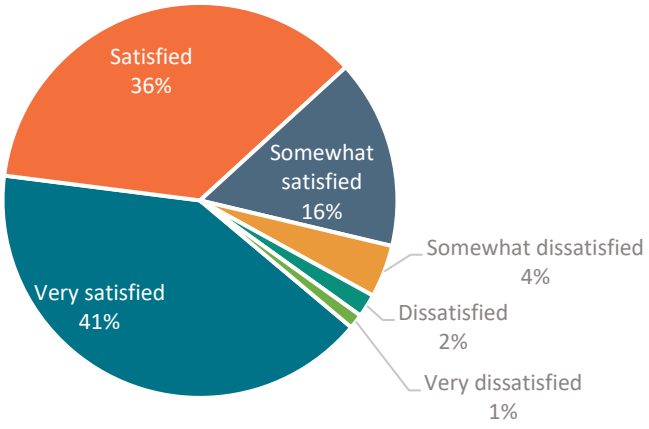
Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

NPs who practiced in underserved communities reported high career satisfaction yet high rates of burnout.

Rates of career satisfaction were high for NPs who practiced in underserved communities, with 77% reporting being “satisfied” or “very satisfied” (Figure 10). Only 3% indicated they were “dissatisfied” or “very dissatisfied” with their NP career.

Figure 10. Career Satisfaction of NPs in Underserved Communities, California, 2023

Q: HOW SATISFIED ARE YOU WITH YOUR NP CAREER?



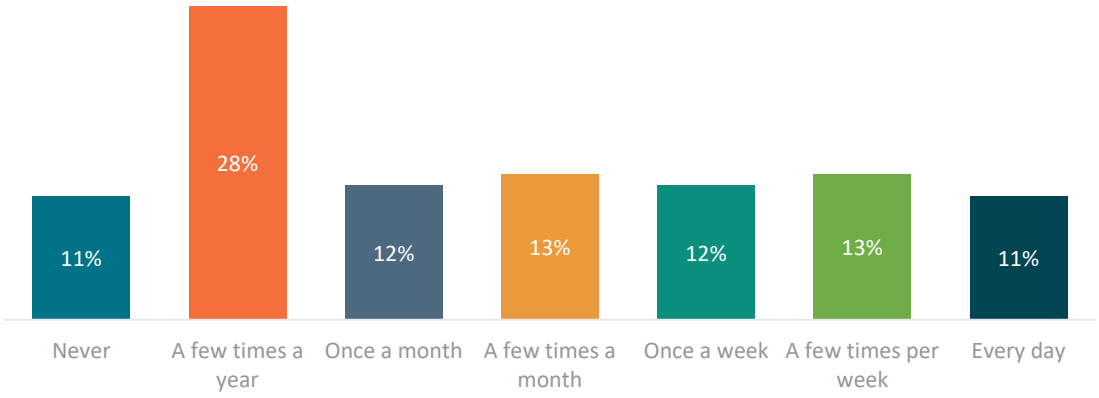
Notes: Number of cases = 362. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse*-Midwives conducted by UCSF (July 18, 2022, to March 31, 2023).

Burnout among nurses is associated with negative outcomes including lower patient satisfaction, lower productivity and performance, lower job satisfaction, higher absenteeism, and higher turnover.[29] NPs were asked to complete the Maslach Burnout Inventory, a set of questions widely used to assess work-related burnout.[30] Nearly half of NPs who practiced in underserved communities (49%) felt burned out a few times per month or more (Figure 11), which is higher than the burnout rate among NPs who did not practice in underserved communities (41%) and similar to or higher than rates of burnout among physicians.[31] Burnout among health care workers has been identified as a national crisis, with the US Surgeon General issuing an advisory with recommendations on how to mitigate burnout.[32]

Figure 11. Burnout Among NPs in Underserved Communities, California, 2023

Q: PLEASE READ EACH OF THESE STATEMENTS CAREFULLY AND DECIDE IF YOU EVER FEEL THIS WAY ABOUT YOUR JOB: I FEEL BURNED OUT FROM WORK.



Notes: Number of cases = 347. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Future Plans of Nurse Practitioners Who Practiced in Underserved Communities

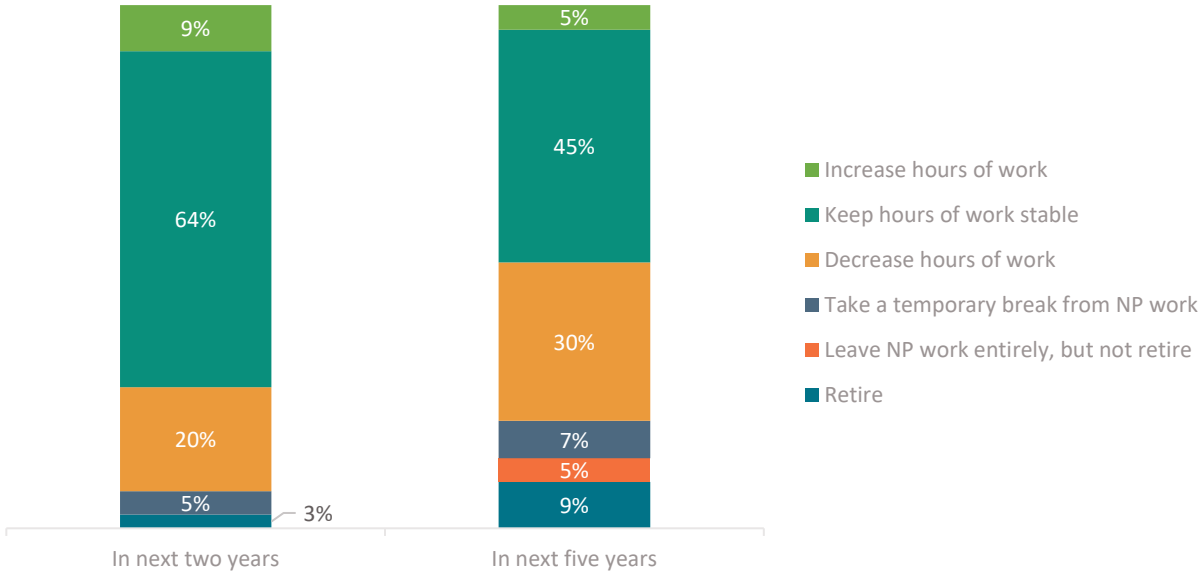
Many NPs who practiced in underserved communities planned to reduce their hours, retire, or leave NP work in the next five years.

NPs were asked to report their employment plans for the next two and five years. Among NPs who practiced in underserved communities, only 3% intended to retire or leave NP work within the next two years (Figure 12). However, 9% planned to retire and 5% planned to leave NP

employment without retiring within five years. Many NPs in underserved communities planned to decrease their hours of work in the next two years (20%) and five years (30%).

Figure 12. Employment and Practice Plans of NPs in Underserved Communities, California, 2023

Q: WHAT ARE YOUR PRACTICE AND/OR EMPLOYMENT PLANS REGARDING YOUR NP PRACTICE IN THE NEXT TWO YEARS AND IN THE NEXT FIVE YEARS?



Notes: Number of cases — two years = 301, five years = 264. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

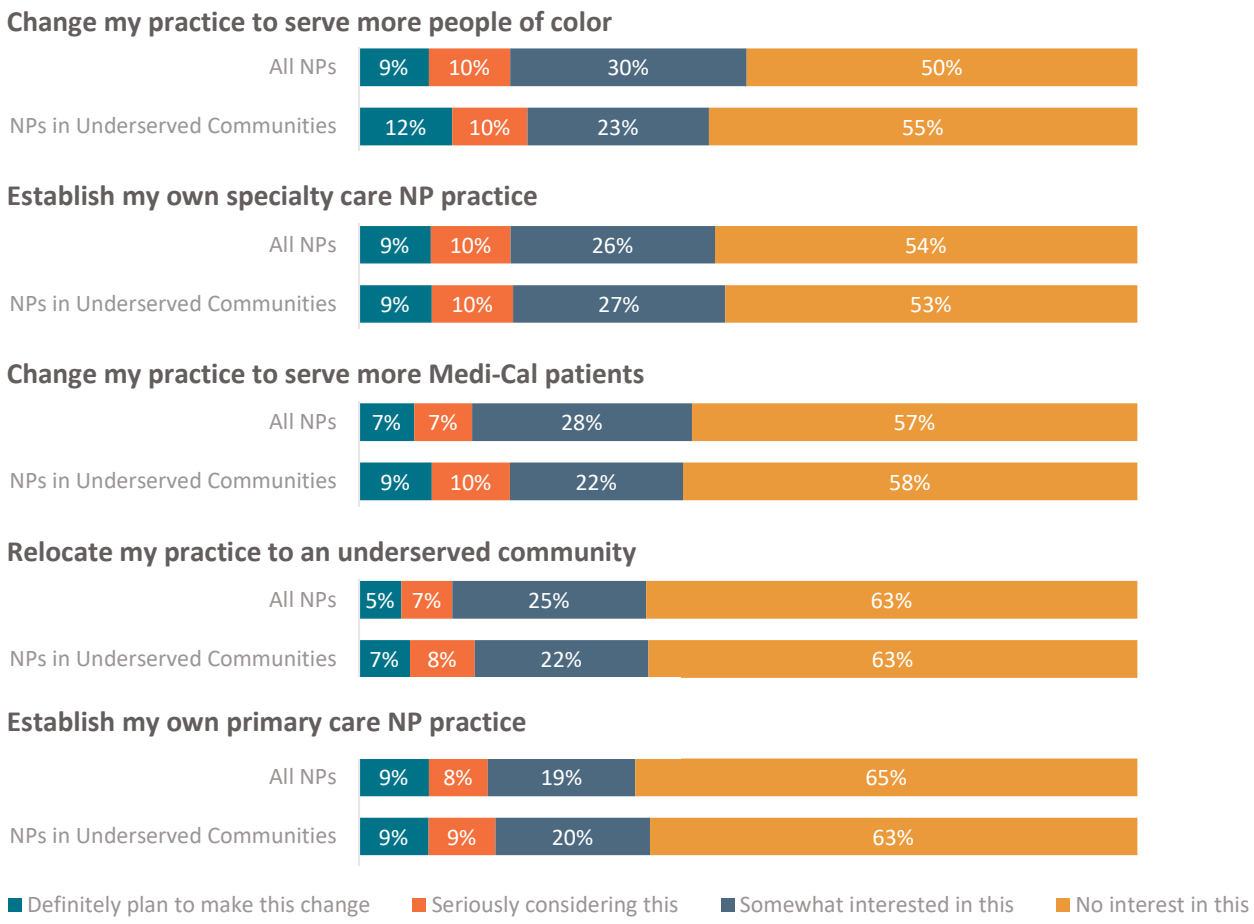
Many NPs expressed interest in making changes to their practice as a result of AB 890.

In 2023, California implemented new regulations via AB 890 aimed at improving access to care, especially primary care services, by providing a pathway for NPs to practice without physician supervision. The passage of AB 890 provides NPs who have three years of experience the ability to practice without a formal written collaboration agreement with a physician and, after another three years of practice, the ability to practice independently without any physician relationship. This regulatory change has led many NPs to consider changing their employment. Approximately 42% of all NPs were "somewhat interested in" (28%), "seriously considering" (7%), or "definitely planning" (7%) to change their practice to serve more Medi-Cal patients; similar percentages of NPs who practiced in underserved communities reported the same plans (Figure 13). Relocating their practice to an underserved community was of interest to or being planned by 37% of all NPs. More than one-third of all NPs (36%) and those in underserved communities (38%) were "somewhat interested in," "seriously considering," or "definitely planning" establishing their own primary care practice. Establishing an independent specialty

care practice was of interest to or being planned by more than 45% of all NPs. For some NPs, the specialty they indicated was linked to serving underserved populations, such as family planning, integrated behavioral health, mother-baby care, and substance use treatment, while some were interested in other specialties such as aesthetics and urology.

Figure 13. NP Interest in Employment Changes After AB 890, California, 2023

Q: CALIFORNIA REGULATIONS WILL SOON BE ESTABLISHED TO ALLOW NPS TO PRACTICE WITHOUT PHYSICIAN SUPERVISION. TO WHAT DEGREE ARE YOU INTERESTED IN MAKING EACH OF THESE TYPES OF CHANGES IN YOUR EMPLOYMENT OR PRACTICE DUE TO THIS CHANGE?



Notes: Number of cases — NPs in underserved communities = 356, all NPs = 650. NPs in underserved communities may want to relocate to another underserved community or an even more underserved community. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Appendix A. Clinical Practice Settings of Nurse Practitioners, California, 2023

Q: WHICH OF THE FOLLOWING BEST DESCRIBES THE TYPE OF SETTING OF YOUR NP POSITION? CHECK ONLY ONE.*

	NPs in Underserved Communities	NPs Not in Underserved Communities
Ambulatory setting	**50.8%**	**44.8%**
Private physician-led practice	9.9%	20.7%
HMO-based practice	3.6%	3.7%
Nurse-led practice	0.1%	2.2%
Community health center, FQHC, Rural Health Clinic	19.2%	0.3%
Family planning clinic	5.2%	0.1%
Behavioral health clinic	2.8%	0.9%
Retail clinic	0.0%	2.4%
Urgent care clinic	4.4%	4.1%
School-based health center	1.4%	1.6%
Other ambulatory setting	4.4%	8.8%
Hospital, medical center	**32.6%**	**33.6%**
Acute/critical care	14.0%	14.0%
Outpatient department	11.9%	15.0%
Emergency department	4.3%	1.3%
Other hospital department	2.4%	3.3%
Nursing home, skilled nursing facility, residential hospice	**2.3%**	**3.6%**
Academic education program	**2.5%**	**2.1%**
Correctional system	**0.2%**	**0.3%**
More than one setting	**8.9%**	**11.1%**
Other type of setting	**2.8%**	**4.5%**

Notes: Number of cases — NPs in underserved communities = 360, NPs not in underserved communities = 263. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question. Some respondents chose more than one setting. *FQHC* is Federally Qualified Health Center.

Source: *Survey of California Nurse Practitioners and Nurse-Midwives* conducted by UCSF (July 18, 2022, to March 31, 2023).

Appendix B. Factors That Interfere with Care, NPs in Underserved Communities, California 2023

Q: HOW MUCH DO THESE FACTORS INTERFERE WITH THE CARE YOU PROVIDE?

	Not a Problem	Minor Problem	Major Problem	Not Applicable
Lack of resources to refer for comprehensive mental health services	22.0%	23.5%	48.2%	6.3%
Challenges with behavioral health referrals	23.7%	25.5%	42.3%	8.5%
Inadequate time with patients	23.0%	32.8%	42.2%	2.0%
Lack of integration of mental health care	26.3%	27.7%	38.6%	7.4%
Lack of community resources to address social determinants of health	24.1%	39.6%	32.6%	3.7%
Denial of coverage/care decisions by insurance companies	22.5%	33.9%	31.7%	11.8%
Patients' inability to receive needed care because of inability to pay	26.0%	35.4%	29.9%	8.6%
Lack of appropriate and willing specialists to whom to refer patients	29.0%	38.0%	29.1%	4.0%
Lack of ancillary clinical support	28.9%	36.0%	27.7%	7.4%
Not getting timely reports from other providers and facilities	25.3%	45.0%	25.9%	3.8%
Financial structure does not support meeting clients' social needs	35.7%	24.3%	25.2%	14.8%
Too much time spent on insurance billing and follow-up	41.0%	26.1%	16.4%	16.5%
Challenges with comanagement of care	32.0%	46.5%	16.3%	5.2%
Scope of practice restrictions by government	42.0%	32.6%	16.1%	9.3%
Non-reimbursable overhead costs (e.g., supplies, rent)	41.3%	15.0%	14.8%	28.9%
Lack of call coverage	45.9%	15.8%	13.1%	25.2%
Too much time spent explaining insurance and financial policy to patients	38.6%	29.5%	12.6%	19.3%
High liability insurance rates	40.9%	23.4%	12.0%	23.7%
Poor integration of NP care with other health care services	46.1%	32.3%	11.8%	9.8%
Inadequate or slow third-party payment	38.8%	17.3%	11.6%	32.3%
Difficulties communicating with patients due to language or cultural barriers	29.2%	57.5%	11.5%	1.8%
Nonpaying patients/bad debt	46.5%	22.5%	10.5%	20.5%
Lack of confidence or knowledge to provide culturally appropriate care	51.0%	38.5%	6.0%	4.5%

Notes: Number of cases = 359. Data are weighted to represent all NPs with active California licenses. Data reported only for respondents who answered this question.

Source: *Survey of California Nurse Practitioners and Nurse*-Midwives conducted by UCSF (July 18, 2022, to March 31, 2023).

Appendix C. Survey Methodology

The Survey of California Nurse Practitioners and Nurse-Midwives was conducted by University of California, San Francisco (UCSF), from July 18, 2022, to March 31, 2023.

UCSF worked with an advisory group of stakeholders to develop the survey questionnaire. Survey development included reviewing both the 2017 California Board of Registered Nursing Survey of Nurse Practitioners and the Nurse Practitioner Primary Care Organizational Climate Questionnaire, and consulting staff at the California Association for Nurse Practitioners.

The survey was sent to 3,600 nurse practitioners (3,300 licensed nurse practitioners [NPs] and 300 dual-licensed nurse practitioner-nurse-midwives [NP-NMs]) with active NP licenses and addresses in California. The survey was also sent to 400 licensed NMs, but their responses were not included in this brief. The survey sample was stratified by region to ensure adequate numbers in each region for regional analyses.

The survey was administered online and via a paper survey instrument mailed to NPs to maximize the response rate. The survey was sent by email to 492 NPs (432 NPs and 60 dual-licensed NP-NMs). A paper version of the survey was mailed to all NPs who did not complete the online version. The survey packet included information on how to complete the survey, the survey instrument, a postage-paid return envelope, and a link and instructions for accessing the online version of the survey. Approximately 46% of respondents completed the survey online. Upon survey completion, respondents received a $5 gift card.

A total of 993 NPs completed the survey, for a 28% response rate for the eligible population. A total of 96 cases were determined to be ineligible due to the survey packet being returned for lack of a current mailing address (*n* = 95) or reported death (*n* = 1).

Of the 993 licensed NPs who completed the survey, 670 were practicing NPs. In total, there were 655 practicing NPs who indicated they provided patient care in their principal position. Among all NPs, 366 provided patient care in underserved communities — this subpopulation of NPs is the focus of this brief — and where appropriate, comparisons were made with the subpopulation of 264 NPs who provided patient care but did not work in underserved communities. The survey question was “Are any of your practice sites in an underserved community?” and directed respondents to indicate yes or no for their principal and secondary NP positions. Note that NPs could report that a single position or job had multiple practice sites. Nine respondents did not provide patient care, and 31 respondents either did not indicate whether they provided patient care, did not indicate whether any of their practice sites were in an underserved community, or both. The survey did not define underserved community.

To address differential response rates by age group and region, and to account for the stratification of the sample design, weights were used to ensure that all analyses reflected the full statewide population of NPs with active California licenses. The responses were weighted per the sample design (regional stratification) and then the weights were raked to match the age distribution of each of NPs and NP-NMs based on Board of Registered Nursing reports. The

sample size and weighting ensure that the data presented in this report are representative of the statewide population of NPs.

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